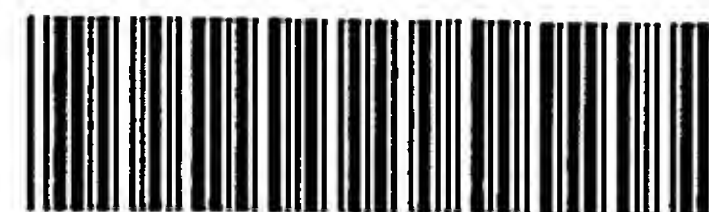


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Application Serial Number: 10/588,445
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DATE: 08/17/2006

PATENT APPLICATION: US/10/588,445

TIME: 15:22:17

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3 <110> APPLICANT: University of Virginia Patent Foundation
 4 Gilmer, Linda
 5 Mandal, Arabinda
 6 Wolkowicz, Michael
 7 Klotz, Kenneth
 8 Herr, John
 10 <120> TITLE OF INVENTION: Compositions and Methods for Identifying and Isolation Sperm
 for
 11 Forensic Applications
 13 <130> FILE REFERENCE: 00952-04
 C--> 15 <140> CURRENT APPLICATION NUMBER: US/10/588,445
 C--> 15 <141> CURRENT FILING DATE: 2006-08-04
 15 <150> PRIOR APPLICATION NUMBER: 60/542,499
 16 <151> PRIOR FILING DATE: 2004-02-06
 18 <150> PRIOR APPLICATION NUMBER: PCT/US2005/003910
 19 <151> PRIOR FILING DATE: 2005-02-07
 21 <150> PRIOR APPLICATION NUMBER: 60/581,945
 22 <151> PRIOR FILING DATE: 2004-06-22
 24 <160> NUMBER OF SEQ ID NOS: 6
 26 <170> SOFTWARE: PatentIn version 3.3
 28 <210> SEQ ID NO: 1
 29 <211> LENGTH: 285
 30 <212> TYPE: PRT
 31 <213> ORGANISM: Homo sapiens
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 40 20 25 30
 43 Gln Thr Ser Val Gln Gln Leu Pro Gly Glu Phe Phe Ser Leu Glu Asn
 44 35 40 45
 47 Pro Ser Asp Ala Glu Ala Leu Tyr Glu Thr Ser Ser Gly Leu Asn Thr
 48 50 55 60
 51 Leu Ser Glu His Gly Ser Ser Glu His Gly Ser Ser Lys His Thr Val
 52 65 70 75 80
 55 Ala Glu His Thr Ser Gly Glu His Ala Glu Ser Glu His Ala Ser Gly
 56 85 90 95
 59 Glu Pro Ala Ala Thr Glu His Ala Glu Gly Glu His Thr Val Gly Glu
 60 100 105 110
 63 Gln Pro Ser Gly Glu Gln Pro Ser Gly Glu His Leu Ser Gly Glu Gln
 64 115 120 125
 67 Pro Leu Ser Glu Leu Glu Ser Gly Glu Gln Pro Ser Asp Glu Gln Pro
 68 130 135 140
 71 Ser Gly Glu His Gly Ser Gly Glu Gln Pro Ser Gly Glu Gln Ala Ser

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80          180          185          190
83 Gln Ala Ser Gly Ala Pro Ile Ser Ser Thr Ser Thr Gly Thr Ile Leu
84          195          200          205
87 Asn Cys Tyr Thr Cys Ala Tyr Met Asn Asp Gln Gly Lys Cys Leu Arg
88          210          215          220
91 Gly Glu Gly Thr Cys Ile Thr Gln Asn Ser Gln Gln Cys Met Leu Lys
92 225          230          235          240
95 Lys Ile Phe Glu Gly Gly Lys Leu Gln Phe Met Val Gln Gly Cys Glu
96          245          250          255
99 Asn Met Cys Pro Ser Met Asn Leu Phe Ser His Gly Thr Arg Met Gln
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110 <213> ORGANISM: Homo sapiens
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119          20          25          30
122 Ile Asn Gln Phe Ala Ala Ala Tyr Phe Gln Glu Leu Thr Met Tyr Arg
123          35          40          45
126 Gly Asn Thr Thr Met Asp Ile Lys Asp Leu Val Lys Gln Phe His Gln
127          50          55          60
130 Ile Lys Val Glu Lys Trp Ser Glu Gly Thr Thr Pro Gln Lys Lys Leu
131 65          70          75          80
134 Glu Cys Leu Lys Glu Pro Gly Lys Thr Ser Val Glu Ser Lys Val Pro
135          85          90          95
138 Thr Gln Met Glu Lys Ser Thr Asp Thr Asp Glu Asp Asn Val Thr Arg
139          100          105          110
142 Thr Glu Tyr Ser Asp Lys Thr Thr Gln Phe Pro Ser Val Tyr Ala Val
143          115          120          125
146 Pro Gly Thr Glu Gln Thr Glu Ala Val Gly Gly Leu Ser Ser Lys Pro
147          130          135          140
150 Ala Thr Pro Lys Thr Thr Thr Pro Pro Ser Ser Pro Pro Pro Thr Ala
151 145          150          155          160
154 Val Ser Pro Glu Phe Ala Tyr Val Pro Ala Asp Pro Ala Gln Leu Ala
155          165          170          175
158 Ala Gln Met Leu Gly Lys Val Ser Ser Ile His Ser Asp Gln Ser Asp
159          180          185          190
162 Val Leu Met Val Asp Val Ala Thr Ser Met Pro Val Val Ile Lys Glu
163          195          200          205
166 Val Pro Ser Ser Glu Ala Ala Glu Asp Val Met Val Ala Ala Pro Leu

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Output Set: N:\CRF4\08172006\J588445.raw

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171	225	230	235 240
174	Val His Val Asp Leu Gly	Ser Gln Pro Lys Glu Asn	Glu Ala Glu Pro
175	245	250	255
178	Ser Thr Ala Ser Ser Val	Pro Leu Gln Asp Glu Gln	Glu Pro Pro Ala
179	260	265	270
182	Tyr Asp Gln Ala Pro Glu	Val Thr Leu Gln Ala Asp	Ile Glu Val Met
183	275	280	285
186	Ser Thr Val His Ile Ser	Ser Val Tyr Asn Asp Val	Pro Val Thr Glu
187	290	295	300
190	Gly Val Val Tyr Ile Glu	Gln Leu Pro Glu Gln Ile	Val Ile Pro Phe
191	305	310	315 320
194	Thr Asp Gln Val Ala Cys	Leu Lys Glu Asn Glu Gln	Ser Lys Glu Asn
195	325	330	335
198	Glu Gln Ser Pro Arg Val	Ser Pro Lys Ser Val Val	Glu Lys Thr Thr
199	340	345	350
202	Ser Gly Met Ser Lys Lys	Ser Val Glu Ser Val Lys	Leu Ala Gln Leu
203	355	360	365
206	Glu Glu Asn Ala Lys Tyr	Ser Ser Val Tyr Met Glu	Ala Glu Ala Thr
207	370	375	380
210	Ala Leu Leu Ser Asp Thr	Ser Leu Lys Gly Gln Pro	Glu Val Pro Ala
211	385	390	395 400
214	Gln Leu Leu Asp Ala Glu	Gly Ala Ile Lys Ile Gly	Ser Glu Lys Ser
215	405	410	415
218	Leu His Leu Glu Val Glu	Val Thr Ser Ile Val Ser	Asp Asn Thr Gly
219	420	425	430
222	Gln Glu Glu Ser Gly Glu	Asn Ser Val Pro Gln Glu	Met Glu Gly Arg
223	435	440	445
226	Pro Val Leu Ser Gly Glu	Ala Ala Glu Ala Val His	Ser Gly Thr Ser
227	450	455	460
230	Val Lys Ser Ser Ser Gly	Pro Phe Pro Pro Ala Pro	Glu Gly Leu Thr
231	465	470	475 480
234	Ala Pro Glu Ile Glu Pro	Glu Gly Glu Ser Thr Ala	Glu Gly Leu Met
235	485	490	495
238	Lys Pro Ala Met Ala Thr	Ser Glu Arg Gly Gln Pro	Pro Pro Cys Ser
239	500	505	510
242	Asn Met Trp Thr Leu Tyr	Cys Leu Thr Asp Lys Asn	Gln Gln Gly His
243	515	520	525
246	Pro Ser Pro Pro Pro Ala	Pro Gly Pro Phe Pro Gln	Ala Thr Leu Tyr
247	530	535	540
250	Leu Pro Asn Pro Lys Asp	Pro Gln Phe Gln Gln His	Pro Pro Lys Val
251	545	550	555 560
254	Thr Phe Pro Thr Tyr Val	Met Gly Asp Thr Lys Lys	Thr Ser Ala Pro
255	565	570	575
258	Pro Phe Ile Leu Val Gly	Ser Asn Val Gln Glu Ala	Gln Gly Trp Lys
259	580	585	590
262	Pro Leu Pro Gly His Ala	Val Val Ser Gln Ser Asp	Val Leu Arg Tyr
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DATE: 08/17/2006

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Input Set : A:\00952-04,Herr-Paint Seq. Listing.U.S.ST25.txt

Output Set: N:\CRF4\08172006\J588445.raw

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270 Lys His Thr Leu Ser Pro Gln Asn Ala Asn Pro Pro Ser Gly Gln Asp
271 625                      630                      635                      640
274 Val Pro Arg Pro Lys Ser Pro Val Phe Leu Ser Val Ala Phe Pro Val
275                      645                      650                      655
278 Glu Asp Val Ala Lys Lys Ser Ser Asp Ser Gly Asp Lys Cys Ala Pro
279                      660                      665                      670
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301 Val Pro Ala Tyr Pro Ser Ile Thr Val Thr Pro Asp Glu Glu Gln Asn
302      20      25      30
305 Leu Asn His Tyr Ile Gln Val Leu Glu Asn Leu Val Arg Ser Val Pro
306      35      40      45
309 Ser Gly Glu Pro Gly Arg Glu Lys Lys Ser Asn Ser Pro Lys His Val
310      50      55      60
313 Tyr Ser Ile Ala Ser Lys Gly Ser Lys Phe Lys Glu Leu Val Thr His
314 65      70      75      80
317 Gly Asp Ala Ser Thr Glu Asn Asp Val Leu Thr Asn Pro Ile Ser Glu
318      85      90      95
321 Glu Thr Thr Thr Phe Pro Thr Gly Gly Phe Thr Pro Glu Ile Gly Lys
322      100     105     110
325 Lys Lys His Thr Glu Ser Thr Pro Phe Trp Ser Ile Lys Pro Asn Asn
326      115     120     125
329 Val Ser Ile Val Leu His Ala Glu Glu Pro Tyr Ile Glu Asn Glu Glu
330      130     135     140
333 Pro Glu Pro Glu Pro Glu Pro Ala Ala Lys Gln Thr Glu Ala Pro Arg
334 145      150     155     160
337 Met Leu Pro Val Val Thr Glu Ser Ser Thr Ser Pro Tyr Val Thr Ser
338      165     170     175
341 Tyr Lys Ser Pro Val Thr Thr Leu Asp Lys Ser Thr Gly Ile Glu Ile
342      180     185     190
345 Tyr Thr Glu Ser Glu Asp Val Pro Gln Leu Ser Gly Glu Thr Ala Ile
346      195     200     205
349 Glu Lys Pro Glu Glu Phe Gly Lys His Pro Glu Ser Trp Asn Asn Asp
350      210     215     220
353 Asp Ile Leu Lys Lys Ile Leu Asp Ile Asn Ser Gln Val Gln Gln Ala
354 225      230     235     240
357 Leu Leu Ser Asp Thr Ser Asn Pro Ala Tyr Arg Glu Asp Ile Glu Ala
358      245     250     255

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Input Set : A:\00952-04,Herr-Paint Seq. Listing.U.S.ST25.txt

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365 His Lys Leu Lys Thr Met Tyr Lys Ser Gln Leu Leu Pro Val Gly Arg
366          275          280          285
369 Thr Ser Asn Lys Ile Asp Asp Ile Val Thr Val Ile Asn Met Leu Cys
370          290          295          300
373 Asn Ser Arg Ser Lys Leu Tyr Glu Tyr Leu Asp Ile Lys Cys Val Pro
374 305          310          315          320
377 Pro Glu Met Arg Glu Lys Ala Ala Thr Val Phe Asn Thr Leu Lys Asn
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397          20          25          30
400 Thr Ala Ala Val Gln Asp Ala Gly Leu Ala His Glu Gly Glu Gly Glu
401          35          40          45
404 Glu Glu Thr Glu Asn Asn Asp Ser Glu Thr Ala Glu Asn Tyr Ala Pro
405          50          55          60
408 Pro Glu Thr Glu Asp Val Ser Asn Arg Asn Val Val Lys Glu Val Glu
409 65          70          75          80
412 Phe Gly Met Cys Thr Val Thr Cys Gly Ile Gly Val Arg Glu Val Ile
413          85          90          95
416 Leu Thr Asn Gly Cys Pro Gly Gly Glu Ser Lys Cys Val Val Arg Val
417          100          105          110
420 Glu Glu Cys Arg Gly Pro Thr Asp Cys Gly Trp Gly Lys Pro Ile Ser
421          115          120          125
424 Glu Ser Leu Glu Ser Val Arg Leu Ala Cys Ile His Thr Ser Pro Leu
425          130          135          140
428 Asn Arg Phe Lys Tyr Met Trp Lys Leu Leu Arg Gln Asp Gln Gln Ser
429 145          150          155          160
432 Ile Ile Leu Val Asn Asp Ser Ala Ile Leu Glu Val Arg Lys Glu Ser
433          165          170          175
436 His Pro Leu Ala Phe Glu Cys Asp Thr Leu Asp Asn Asn Glu Ile Val
437          180          185          190
440 Ala Thr Ile Lys Phe Thr Val Tyr Thr Ser Ser Glu Leu Gln Met Arg
441          195          200          205
444 Arg Ser Ser Leu Pro Ala Thr Asp Ala Ala Leu Ile Phe Val Leu Thr
445          210          215          220
448 Ile Gly Val Ile Ile Cys Val Phe Ile Ile Phe Leu Leu Ile Phe Ile
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452 Ile Ile Asn Trp Ala Ala Val Lys Ala Phe Trp Gly Ala Lys Ala Ser
453          245          250          255

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VERIFICATION SUMMARY

DATE: 08/17/2006

PATENT APPLICATION: US/10/588,445

TIME: 15:22:19

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L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date